Customer Experience Management
Delivering a More *Personalized* Airline Journey

A Research Study Prepared by Travel Tech Consulting, Inc.

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Executive Summary

Introduction

In every corner of the world, airlines are embracing a new customer-centric focus. For many, the term Customer Experience Management (CEM) has emerged as the new airline mantra. The goal is to treat each passenger as an individual by tailoring services to meet their specific needs throughout the journey. For the airlines this represents a shift from a traditional inventory management focus, to managing the experience and expectations of the customer at every touchpoint. In fact, with razor-slim margins, and years of poor financial performance, the current focus on improving the customer experience represents a dramatic shift for all airlines, with the goal to increase profitability through product differentiation and customization. TTCI research found although most carriers are evaluating and planning CEM initiatives, few airlines are at a stage of actually implementing CEM. Some airlines are still thinking about CEM in terms of loyalty or CRM, illustrating the lack of consistent maturity of the CEM concept.

The CEM Vision

The CEM vision consists of these elements:

- *Customer recognition enabling customized services and relevant communication at all touchpoints.*
  This bold objective is extremely difficult to execute. Relevancy, in particular, is dependent on numerous factors. Truly making communication relevant to the passenger requires a sophisticated solution that incorporates multiple variables. Today, most airlines' CEM efforts are focused on delivering messages through self-service touchpoints. Because the marketing department is often driving initial CEM projects, much of this information is taking the form of sales or customer service messages.
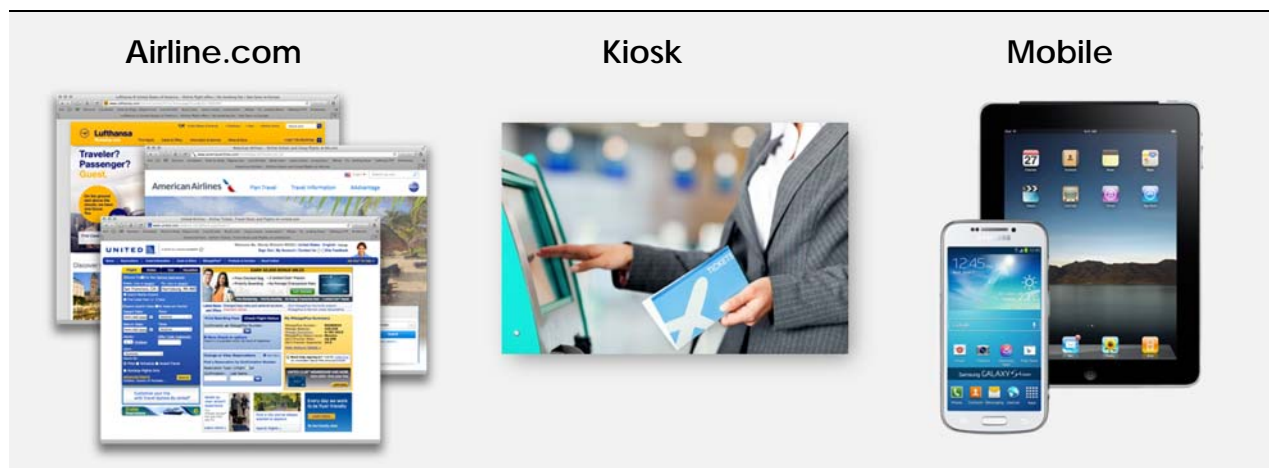

| Airline.com | Kiosk | Mobile |

Figure 1: Self Service CEM Focus

- *Gather and deliver customer information from and to all touch points in real-time throughout the journey.*

   Currently there is no airline that is systematically gathering information from **all** touchpoints. Despite a broad goal to interact with the passenger throughout the journey, few airlines have thought beyond the on board experience and have not considered offering relevant information after the passenger arrives at the destination.
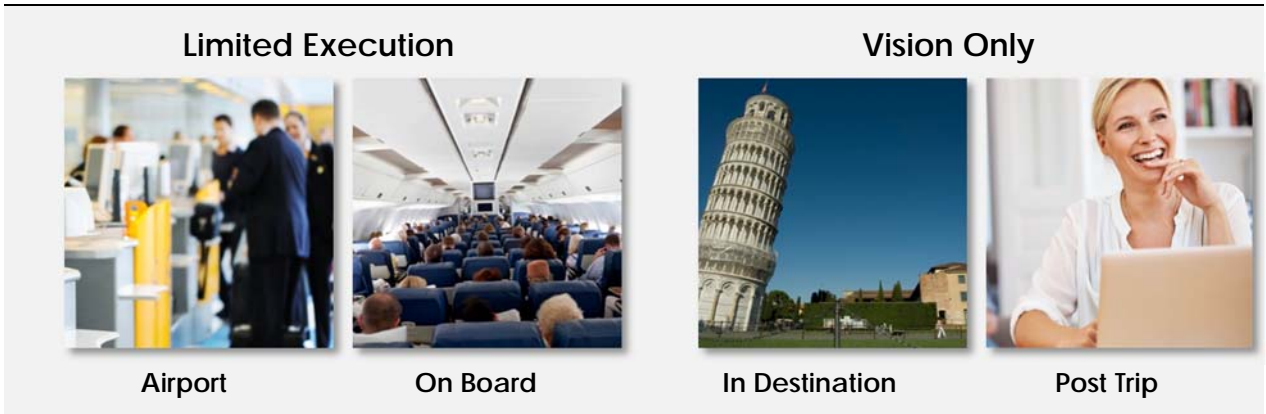
Figure 2: Self Service CEM Focus

Despite sharing a common CEM vision, most airlines are still focused on early steps of the CEM process. For some airlines loyalty continues to drive many initiatives with a focus on the e-commerce channels (supplier.com and mobile) as the top priority. While many airlines talk about implementing personalization and improved customer service based on specific customer needs, many airlines have not changed their existing legacy processes. Operational delivery represents a major challenge for most airlines.

Figure 3: CEM Realities

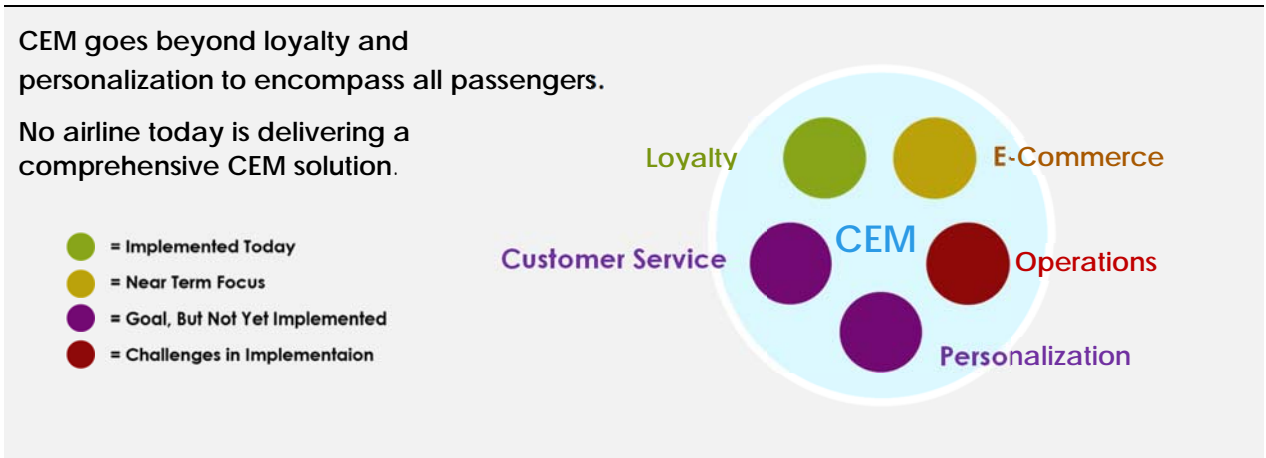Figure 4 summarizes the current state of airline CEM efforts, how budgets are handled, and current trends in implementation. CEM is a multi-year process which requires integration with existing systems. The biggest challenge is to normalize information from disparate systems and deliver truly actionable, meaningful information back to the customer at all touchpoints.

The Market

The State of CEM	The Budget for CEM	Implementing CEM
• Most airlines are at an early stage of CEM planning. • It will take 5-7 years for most airlines to implement CEM solutions that interact with a majority of customer touchpoints.	• Airlines have targeted millions of dollars to a broad CEM effort, but each departmental implementation requires a standalone business plan and ROI. • The biggest costs for CEM is system integration required to extract standardized customer information, and feedback actionable, meaningful communication to passengers.	• Self-service is the initial target often driven by the marketing or loyalty organizations. • Providing truly relevant CEM communication and collecting information from all touchpoints is a significant challenge.

Figure 4: The CEM Market

The State of CEM

Executing a CEM Vision

As often happens with technology trends, executing on a vision can prove to be challenging. For example, airlines recognize that mobile is an important platform to deliver CEM services, but assuring relevancy on the mobile platform is not a simple task, as illustrated in Figure 5.
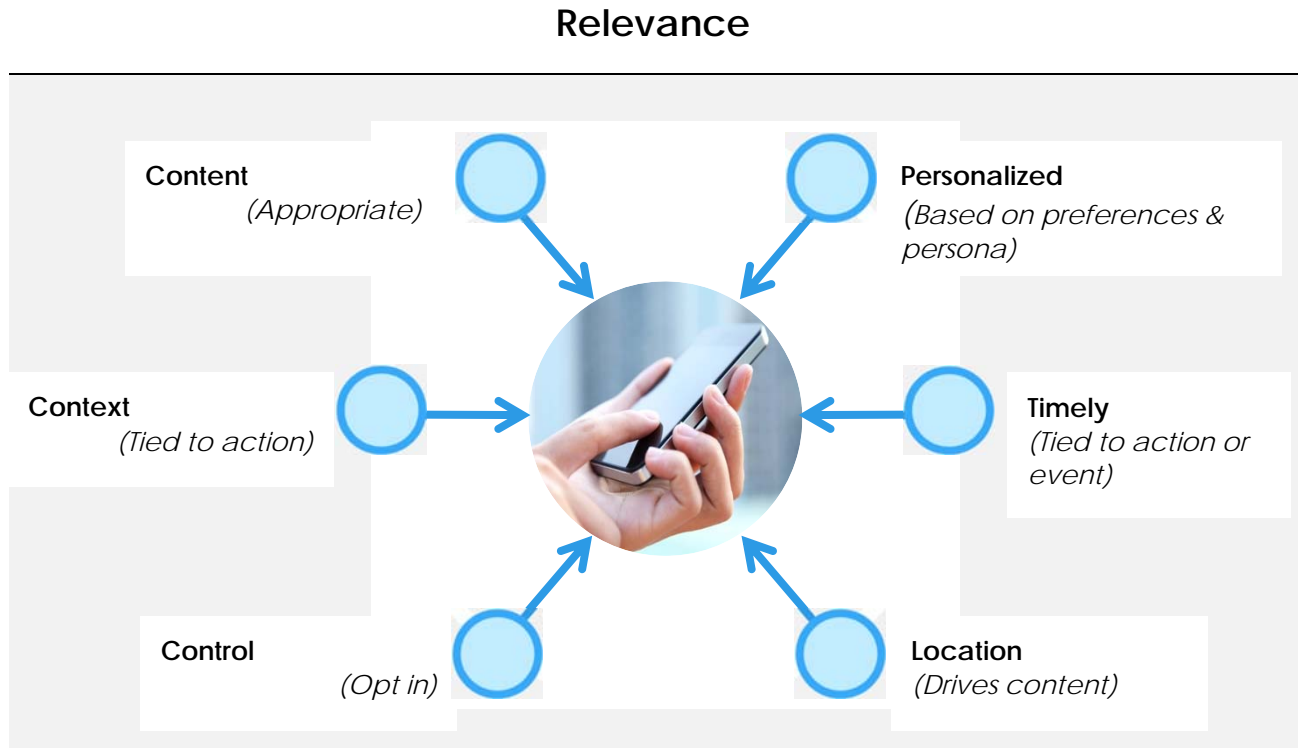
Relevance

Content
(Appropriate)

Personalized
(Based on preferences & persona)

Context
(Tied to action)

Timely
(Tied to action or event)

Control
(Opt in)

Location
(Drives content)

Figure 5: Driving Relevance

Content – To be relevant, content must be appropriate. For example, delivering a club room pass as compensation for a delayed flight to an existing member is irrelevant, and may actually create further passenger frustration. This example may seem basic, but does happen today with marketing messages disconnected from club membership databases.

Context – Deriving context is the most challenging part of relevancy. Many airlines view context as related to the stage of the journey, but true context must reflect what the passenger needs at the moment a message is received; for example, directions to a different gate when a gate change occurs.

Location – Utilizing an individual's location enabled by GPS has become a foundation for mobile services. Deriving location indoors may be a challenge unless specific indoor Wi-Fi or Bluetooth (e.g. Beacon) solutions are available. Google has created specific maps of airports as part of their standard service. SITA is also working with airports and airlines on deploying Beacon technology.

Timeliness – For years airlines have been sending essentially meaningless messages to travelers via SMS. It becomes tiring to constantly receive a message that your flight has arrived when you are sitting on the arrival airport tarmac. Ensuring that each message is timed to correspond with the passenger's need is challenging; airlines need to focus messages on practical information that is useful at that particular point in the journey.

Control – There are valid privacy concerns as airlines implement CEM. The best way to mitigate the privacy issue is to enable customers to opt-in to offers and messages. In some cases a double opt-in may be needed first to authorize messages in general, and then to opt-in to specific messages.

Personalization – Delivering customized information based on individual preferences has been a hot topic in e-commerce for many years. Balancing the amount of information you extract from implicit behavior versus explicit preferences can be challenging. Adding complexity to personalization efforts in the airline passenger space is the need to determine the persona of the individual. For example, delivering a "personalised" message to a frequent business traveler while they are on a leisure trip with their family can fail to meet the true needs of the passenger. A business person's persona may even be different when traveling to a meeting versus returning.

Our research uncovered the following challenges in CEM Execution:

- *Airlines are struggling with personalization for non-FFP members.*
  For some airlines, as few as 15-20% of their daily passengers are active members of their frequent flyer programs. Gathering behavioral, historical and personalised insight into these passengers is a major obstacle to delivering an airline wide CEM solution.

- *Dealing with country specific privacy laws could be an issue for marketing messages.*
  The recently revised European Commission Passenger Rights proposal supports airlines use of some personal information, but restricts that use to customer service messages, prohibiting marketing efforts. Country specific rules in places such as Germany are even more restrictive regarding the use of personal data. The Opt-in solution above is one answer to meet these privacy restrictions as well as clearly outlining privacy policies in the terms and conditions within the frequent flyer program.

- *Strong focus on prioritizing service for IROP targeting customer self-service solutions.*
  The use of self-service messaging, particularly to mobile devices and kiosks when irregular operations occur, is a clear part of an effective CEM strategy and a major focus of all the airlines interviewed. Currently many airlines prioritize services based on FFP status.

- *Most interviewees associated CEM with loyalty, marketing or incremental ancillary services.*
  TTCI research found that despite senior level support on CEM, airlines are taking baby steps toward the CEM vision. Often the focus is limited to loyalty members, marketing messages or the effort to sell more ancillary services.

- *Few airlines have developed a strategy that ensures relevancy of proactive services.*
  When it comes to the core theme of relevancy, few airlines have the tools to ensure that their messages provide proactive advice that matches the key elements of relevancy described above.

CEM Priorities

1. Airline.com

FIRST FOCUS – Our research uncovered a consistent prioritization on the airline.com direct channel as the top focus for the CEM effort. As a result, the e-commerce group is often leading the initiative.

2. Mobile

SECOND FOCUS – Every airline interviewed recognized that mobile is the key delivery platform for CEM. In particular, a strong emphasis on delivering relevant information during irregular operations was a major focus for all airlines and some of the carriers are already doing this for their top status FFP members. No airlines interviewed have extended mobile communication to relevant in-destination messages.

3. Kisosks

THIRD FOCUS – For delivering CEM messages at the airport, the majority of airlines interviewed looked to the kiosk as playing an important role. In some cases the thought was to pair mobile and kiosk together, delivering the message on mobile and providing the option for document printing at the kiosk.

4. On Board

FOURTH FOCUS – More progressive airlines have recognized the value of improving the onboard experience beyond the physical accommodations. The trend is to equip the flight crew with smartphones or tablets to not only replace archaic paper printouts, but to help the flight attendants provide more personalised services based on customer insight.

5. Call Centers

FIFTH FOCUS – Only one airline interviewed was actively planning a CEM call center solution. Though call center volumes have decreased for initial reservations, they still play an important role in itinerary changes or complex reservations. CEM efforts for the call center must focus on understanding the entire customer airline experience apart from simply the FFP status.

Figure 6:
Priority Touchpoints

CEM Pain Points

The Airport

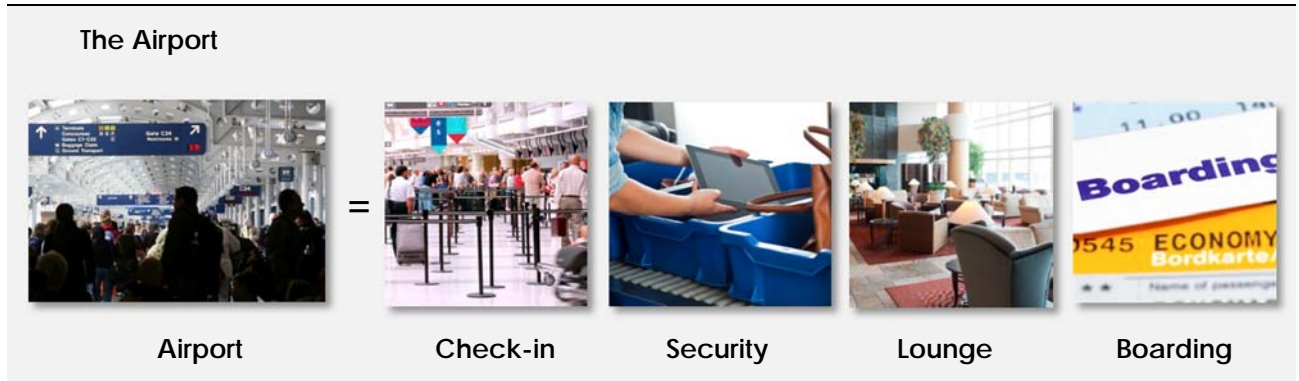| Airport | Check-in | Security | Lounge | Boarding |

Figure 7: Airport Touchpoints

The airport experience has many more components beyond the interaction with a kiosk. Though there are growing numbers of passengers that essentially do not deal with any airport staff using mobile or print-at-home boarding passes, and with the emergence of self-service baggage drop off, a significant segment still interfaces with ticket and gate agents. In addition, some of the airlines' best customers interface with club member staff. Airport security continues to be the most stressful part of the airport experience, with airlines having little control over security screening polices as they differ by country.

The Changing Role of Loyalty

For decades, airline loyalty systems have been the gold standard for customer engagement, but the role of airline loyalty has changed. With airline consolidation, the number of premium status customers, especially in hub cities, has diluted the value of frequent flyer status. In addition, many airlines are trying to encompass CEM beyond loyalty customers due to the large number of passengers who are not active members. In addition, the outsourcing of loyalty as a standalone business unit has created challenges, as independent loyalty companies focus on affinity relationships. In some cases the loyalty company puts limit on the level of detailed customer information especially around credit card purchases. Thus, in simple terms, loyalty does not equal CEM.

Identifying Passenger Personas

Providing the relevant information to the passenger at all these touchpoints is challenging, as it is necessary to identify the appropriate persona of the traveler.

Apart from the obvious business verses leisure traveler, there are more subtle nuances within these broad categories. A business person traveling to a meeting may have different needs outbound than on their return trip. Even families can have vastly different needs based on their destination, age of their children, and prior experience with the airline. Getting the message and persona right is the holy grail of a successful CEM implementation.

Figure 8: Passenger Personas

Airline Organizational Structure

Airline silos developed for a reason, primarily designed to efficiently execute key airline functions. At its core, CEM is an interdepartmental philosophy that is challenging the traditional airline silo structure.
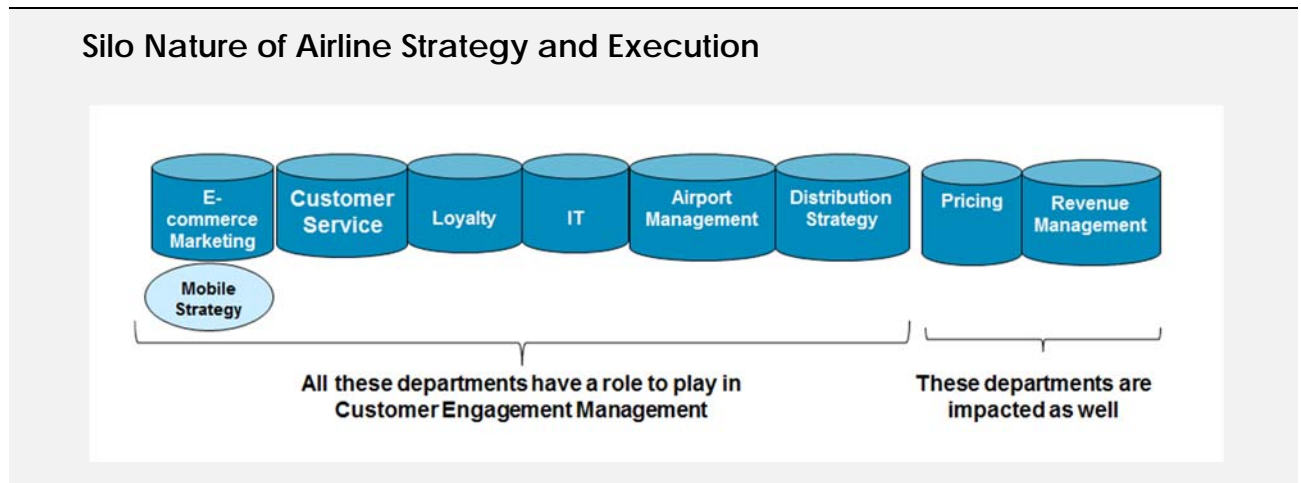

Figure 9: Airline Silos

E-commerce / Marketing - With e-commerce and marketing driving many of the CEM initiatives for the airline, a web-focus on merchandising often takes precedence over a more 360 degree passenger view. Mobile strategy is often driven by the e-commerce group and thus may suffer from a merchandising focus as well. Mobile is such a crucial part of the CEM solution, limiting it to marketing solicitations can be a serious weakness of an e-commerce driven CEM strategy.

Customer Service – Customer service is often put into a reactive mode responding to complaints rather than proactively managing the customer experience.

Loyalty - Airline loyalty programs have become a key revenue generator for the airline. The revenue often comes from affinity programs (e.g. credit card tie-ins) rather than direct passenger revenue. With many airlines reporting a low level of active participation, loyalty may not be able to be the sole driver of CEM, especially for larger carriers.

IT – The value of IT within the airline CEM effort is that by its nature IT crosses traditional airline silos.

Airport Management – The airport obviously contains major touchpoints for the customer. It is often also a major pain point, so incorporating airport management, including ground handlers who are often not direct airline employees, into a CEM initiative is essential.

Distribution Strategy - The managers who execute the distribution strategy for the airline generally do not take into account the impact of distribution changes on passenger sentiment. There are two important reasons to have distribution executives participate in an airline CEM initiative. First, the distribution group is actively promoting new distribution methodologies that are at the heart of airlines' personalization and merchandising efforts. The second reason is that despite efforts to increase direct sales, travel agencies and TMCs continue to control a major portion of an airline's customer touchpoints, and thus an integrated CEM solution is needed. As part of its New Distribution Capability (NDC), IATA is promoting a set of XML-based standards to enable more personalized offers to customers through all channels. At this point NDC is still emerging, but as these standards are implemented, they can help bring order to the way systems exchange information and personalize offers to customers. NDC is being embraced by the airline distribution managers and could be instrumental in providing CEM through all channels.

Pricing and Revenue Management – Neither of these disciplines may be naturally included in a CEM effort, but the reality of a customer-centric approach may have a direct impact on the way an airline prices its products. In addition, the new customer-centric approach is shifting the balance of power away from a traditional revenue management driven focus. Neither discipline is going away, but both should be included in a transformational CEM effort to insure that both passenger experience and airline revenue both benefit.

Best Practices in Organizational Structure

The following best practices in organizational structure in a CEM context were derived from the TTCI research:

APPOINTING A CHIEF CUSTOMER OFFICER – Whether the title is Chief Customer Officer or simply VP of Marketing, having a C-Level executive drive the CEM effort is essential.

ESTABLISHING CROSS-FUNCTIONAL TEAMS – Teams with multi-department input may be challenging to manage, but ensure a more 360 degree view of the customer across traditional silos.

GAINING BUY-IN AND INPUT FROM ON-BOARD STAFF – Airlines cannot design CEM interfaces effectively unless they can truly understand the use case scenarios of the airport and on board staff.

WORKING WITH IT TO BALANCE INTERNAL DEVELOPMENT WITH EXTERNAL SYSTEMS - Airlines often balance internal IT staff with third-party outsourced development teams. It is essential for IT to implement CEM and balance internal and external systems and development.

Changing Employee Behavior

Despite an airline's best effort to personalize the travel experience, technology and traditional processes often hamper CEM efforts. Figure 10 illustrates this point as customers interact with airport staff that seems more focused on their computers than their customers.

The TTCI research reflects the challenge airlines face with changing employee behavior to enhance CEM at the airline staff touchpoints. In fact, the emphasis on self-service is directly tied to this challenge.

Figure 10: Changing Employee Behavior

Best Practices Employee Execution

The following best practices in employee CEM execution were derived from the TTCI research:

CONSISTENT TRAINING – More progressive airlines that embrace self-service still recognize that a fully self-service environment is years away. Thus these airlines conduct ongoing training with airline staff to insure that employee behavior matches the CEM effort.

CUSTOMIZED UX FOR DCS AND ONBOARD TOOLS – To implement CEM at airports and on board a new User Experience (UX) is needed for the airport staff and flight attendants. This often means creating a unique skin on top of the existing DCS system to help bring to the screen the full picture of the customer. Tablets deployed at the airport and on board also serve this purpose.

INCLUDING AIRPORT AND ON BOARD STAFF IN DESIGN AND TRAINING - Including the employees in developing the interface for a new DCS skin or on board tablet is a key best practice to secure buy-in and create a truly useful workflow.

DEVELOPING REWARDS AROUND CEM KPIS – Once the systems are in place it is essential to create accurate Key Performance Indicators (KPIs) to measure employee behavior and reward positive behavior. Utilizing gamification techniques is also a proven way to change employee behavior.

CEM and Passenger Privacy

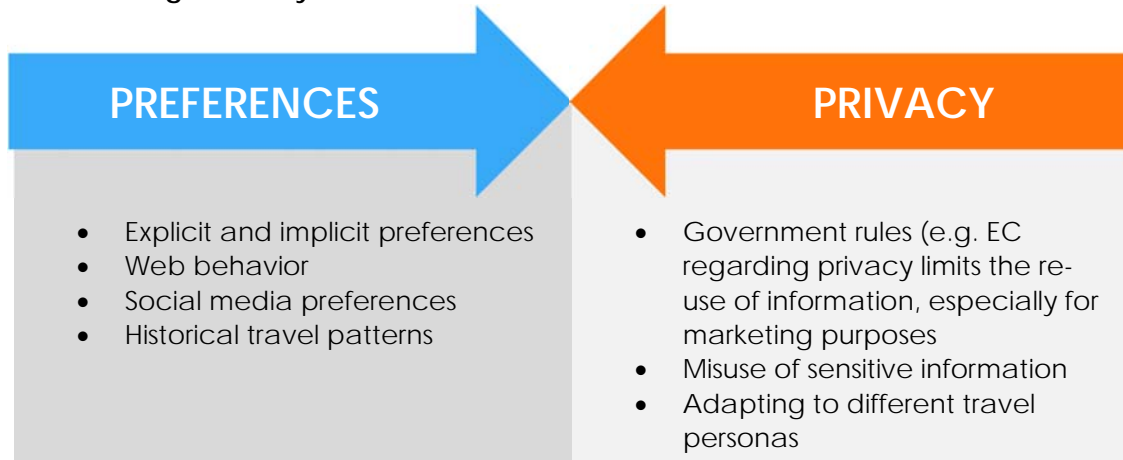| PREFERENCES	PRIVACY
• Explicit and implicit preferences • Web behavior • Social media preferences • Historical travel patterns	• Government rules (e.g. EC regarding privacy limits the re-use of information, especially for marketing purposes • Misuse of sensitive information • Adapting to different travel personas

Figure 11: Preferences versus Privacy

There is a natural conflict between providing enhanced customer experience and privacy concerns.

Traditionally preferences are derived from:

Explicit and implicit preferences – Dependent on the situation, a passenger may be willing to explicitly state a preference. In a simple form, seat selection represents an explicit preference. As airline ancillary offers become more complex and greater in number, passenger's explicit choices help form a view of their preferred services. Implicit preferences are a bit trickier, but have been at the heart of e-commerce for years. Monitoring behavior online often yields implicit preferences, such as considering various ancillaries or looking at premium class inventory.

Web behavior – Related to implicit preferences is the tracking of online and mobile behavior. A classic example is tracking the point where a user abandons their shopping cart.

Social media preferences – The level of detail social media sites can provide depends on an individual's privacy settings. Social media can provide insight into brand preferences and attitudes.

Historical patterns – Understanding the history of the passenger is a key point of reference for CRM. Airlines often cited an example of providing enhanced service or some sort of soft compensation (e.g. pass to a club room) based on the near history of the passenger (e.g. recently flight cancellation or missed connections).

Government Rules – CEM is designed to capture these preferences from all passenger touchpoints. Privacy concerns and laws represent both a global and country-specific set of obstacles to CEM. Foremost in regards to privacy are government rules that restrict the type of information that is captured, and how that information is used. For example, the recently announced revised European Commission Passenger Rights specifically limits the use of personal information for customer service purposes only, not marketing efforts, a key component of CEM.

Misuse of Sensitive Information – If information is used without the proper controls, an opposite outcome could result where the passenger becomes irritated with the personal service sensing an Orwellian "Big Brother" use of personal information.

Passenger Personas – As mentioned earlier, capturing the passenger's persona on the trip can ultimately negate CEM goals if a message is perceived irrelevant to the passenger's role at that stage of the trip.

CEM through the Channel

The reality of the marketplace is that a large portion of an airline's sales are made through a channel.

| TMCs | Travel Agents | OTAs |

Figure 12: Channel Sales

It is important to clearly state that no airline interviewed for this study had a solution to implement CEM within the channel. Most carriers simply focus on increasing direct sales and implementing CEM through those direct channels. With as much as 60% of an airline's revenue coming from the channel, clearly a comprehensive CEM solution must incorporate distributors. Most airlines look to capture the customer insight when they check-in for the flight, and with the growth of early computerized check-in, airlines see the opportunity for personalized services for channel sale customers beginning at that moment. Given the value of ancillary sales, and the need to understand passenger preferences during the shopping experience, waiting until the check-in point does not adequately solve the CEM channel problem

CEM's Impact on Airline Technology

E-Commerce

The Internet has permanently changed the way airlines distribute and market their products. Tools to measure customer behavior have gained sophistication and now provide deep insight into how visitors interact with an airline's website. Personalization is also not a new concept for airline e-commerce. Early pioneers such as BroadVision and ATG (used by American Airlines in the early 2,000s) promoted personalization in the airline shopping experience. These systems often were difficult to implement, maintain and were heavily dependent on explicit preferences selected by the customer during the buying process. Easier to manage merchandising systems that provide customized upsell and cross-sell offers became more common over the last 3-4 years. With the growth of ancillary services and fare families, airlines have expanded their products and services to offer more options to the customers, but still not directly tying these options to specific passenger preferences and requirements. Overall airlines have not deployed extensive personalization techniques in order to deliver on the promise of CEM. To meet this goal, airlines would need to use customer insight gathered from a comprehensive view of all interactions with the airline, from all touchpoints, not just the online shopping and buying experience. Considering the fact that many airlines interviewed for this study expressed a strong emphasis on e-commerce as a starting point for CEM, the lack of a complete view of the customer will limit the impact of initial e-commerce focused CEM implementations.

Big Data

This is mixed sentiment in the technology industry on the impact of Big Data. Some feel that Big Data is simply the latest IT fad and will not have significant impact on IT operations. This perception misses the basic point as the very definition of Big Data implies that it consists of data sets that are too large and complex to manipulate or interrogate with standard methods or tools. Harnessing the insight derived of Big Data has significant relevance to the CEM concept. As external sources such as social media are combined with data gathered from explicit and implicit customer behavior, Big Data technology will be essential to analyze this vast amount of data and deliver actionable, relevant content back to the customer.

Reservation and Airport Technologies

Passenger Service Systems are at the heart of airline automation delivering reservations, inventory and revenue management as well often providing the departure control platform. As part of the evolution of these systems, offering a "customer value" identification has become a key element of PSS/DCS technology. Today, customer value calculations tend to rely heavily on frequent flyer status, but rarely include a customer's life time spend or historical buying patterns.

PSS/DCS platforms must be able to incorporate customer data from all touchpoints and deliver customized service through the system. Today call center agents who use the PSS for reservations, do not enter data based on their customer interaction. For example a passenger who is classified as a high value customer, but who experienced long hold times, or incorrect information from a call center agent, does not have this experience recorded in the PSS and used to alter services in the future.

The primary role of the DCS is to efficiently process passengers at the airport and thus has not been designed to capture information at the ticket, gate or kiosk touchpoints. Though the PSS powers the e-commerce site, most airlines have deployed e-commerce tracking tools such as Tealeaf in order to understand passenger shopping behavior and have not incorporated experiences from other touchpoints, such as airport interactions, in order to deliver personalised offers online.

To execute a CEM vision, airlines need a single view of the customer that delivers a set of personalised services at any touchpoint. For a PSS system to be "CEM ready" requires an open flexible PSS/DCS that can direct staff behavior based on customer preferences and value incorporating multiple points of customer data to deliver personalised services.

Onboard Services

As more of the process of travel becomes self-service, the onboard experience has become the primary interaction between the airline and customer. To offer more personalised services on board, many airlines are equipping their cabin crew with smart devices such as smartphones, phablets or tablets, which not only replace the paper manifest, but contain customer insight information. At this time most of these efforts are limited to pilot tests with a primary focus on premium cabin customers. Integrating the smart device information with a complete 360 degree view of the customer is essential for airlines to implement a CEM solution inflight. In addition to the cabin crew, inflight entertainment systems could be customized and as Wi-Fi becomes standard across airlines, specific apps could be deployed to offer a variety of personalised products and services to the passengers.

Mobile

Mobile is the Key to CEM

Every airline from every continent agreed that mobile is the key platform for delivering CEM services to the passenger. Though all were in agreement, few airlines had a clear strategy to deliver CEM services on mobile devices and capture customer sentiment from those same devices.

Smartphones versus Tablets

The TTCI research showed that many airlines lacked a clear strategy in respect to the passenger's use of smartphones versus tablets. Most airlines recognized that tablets were an emerging platform, but few had a dedicated effort for the tablet market, believing their website alone was sufficient. There are unique use case scenarios for smartphones versus tablets. In respect to CEM, immersive tablet applications provide an ideal 1:1 communication platform. For brand loyal customers, downloading a tablet-specific app extends the relationship in a unique way. Figure 13 describes use case scenarios and how they apply to an airline's CEM effort.

Tablet		Smartphone	
Use Case Scenario	**CEM Relevance**	**Use Case Scenario**	**CEM Relevance**
Untethers and extends the planning cycle of the trip.	Increases the frequency for airline communication during trip planning.	Primary platform for in-destination content and in trip ancillary sales.	Deliver ancillary sales related to location, context and preferences.
Immersive tablet apps enhance the travel experience and increases brand loyalty.	Immersive apps can be hyper personalised based on CEM customer knowledge.	Behavior driven by local search.	Provide smart services that target specific passenger preferences.
Ideal for brand differentiation.	Tablet apps are more likely to be downloaded by frequent customers.	Greater opportunity for extending CEM to in-destination services.	Extend the CEM effort throughout the journey.
Ideal for pre-trip "ancillary" transactions.	Airline can delivery customized ancillary services based on CEM insight.	Opportunity to gain behavioral insight from in-destination activities.	Gather additional passenger preferences for future CEM targeting.
Provides a platform for direct distribution strategies.	Provides a low cost distribution channel for direct offers.	Passenger seeks relevancy on searches.	Enhanced CEM knowledge drives relevancy.

Figure 13: Tablet vs. Smartphone CEM Opportunity

Smart Mobile Services

Despite the lack of mobile execution the clear mobile vision for CEM is the concept of smart services. Simply said, smart services anticipate traveler needs by accessing multiple sources of data and delivering relevant information. For mobile, CEM = smart services.
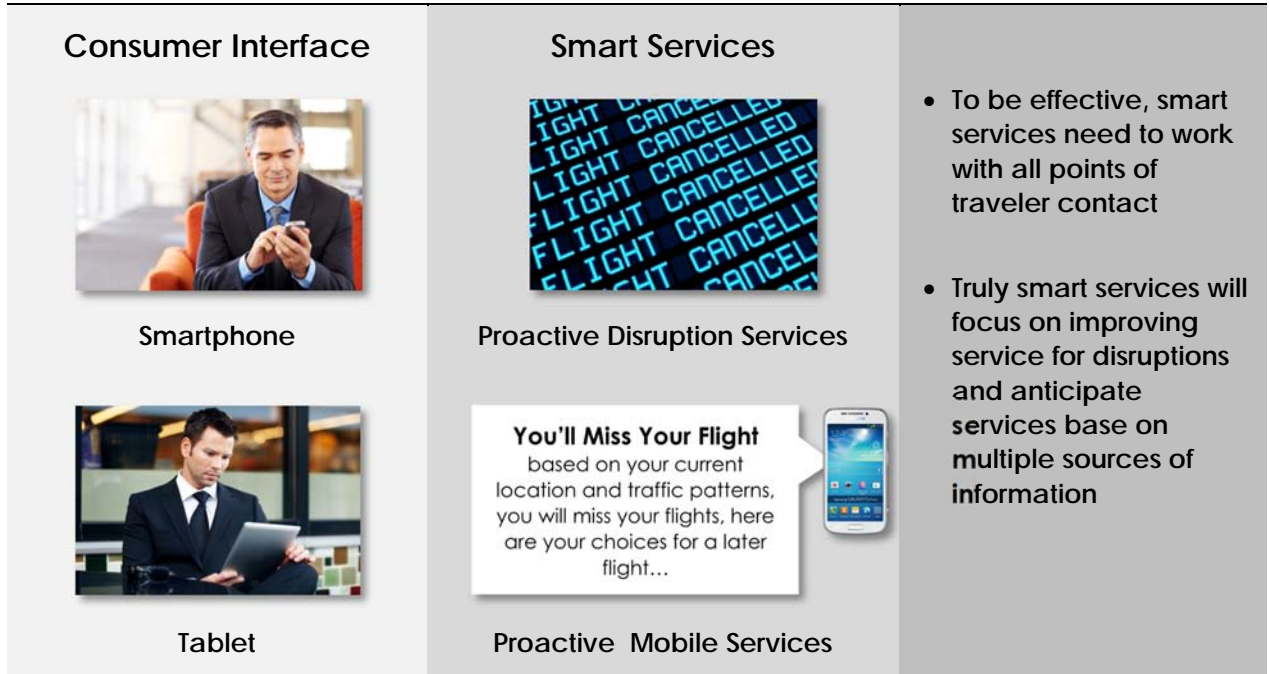
Smart Mobile Services

Consumer Interface	Smart Services	
Smartphone	**Proactive Disruption Services**	• To be effective, smart services need to work with all points of traveler contact • Truly smart services will focus on improving service for disruptions and anticipate services base on multiple sources of information
Tablet	**Proactive Mobile Services**	

You'll Miss Your Flight based on your current location and traffic patterns, you will miss your flights, here are your choices for a later flight…

Figure 14: Smart Mobile Services

Mobile and Social are the Future

An airline's CEM strategy must be future proof to anticipate the always connected traveler. Even if most airport processes move to a primary self-service model, the passenger will be constantly connected and thus can influence an airline's brand instantaneously, especially while in the air.

Mobile and Social are the Focal Point of CEM Interactions

In the always connected, self-service future, mobile and social media's influence extends to on board interactions.

Figure 15: The Always Connected Future

CEM Architectural Framework

Figure 16 describes a broad architectural framework for CEM deployment across customer touchpoints.
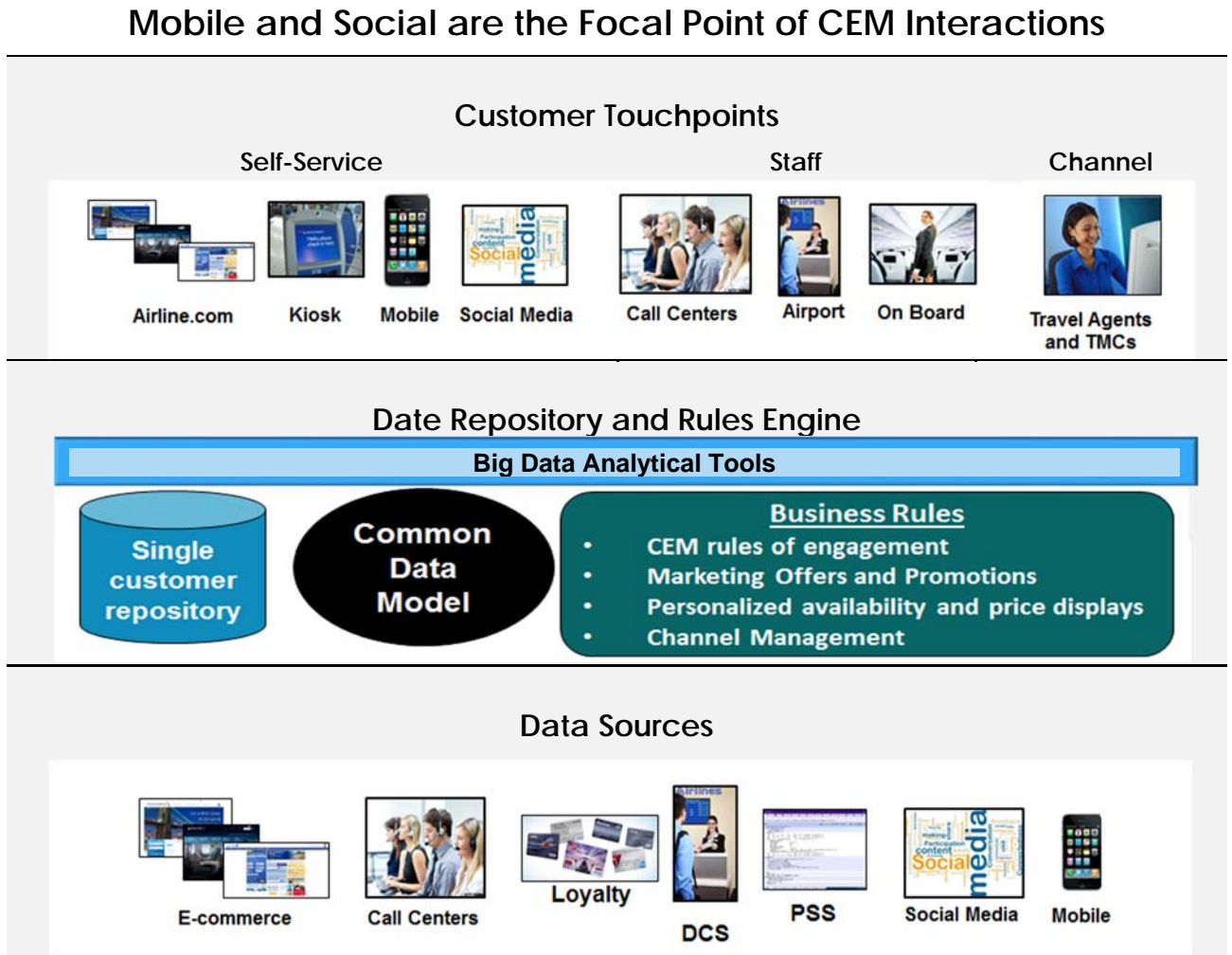

Figure 16: CEM High Level Architecture

The previous diagram does not represent a single CEM system, but illustrates a framework needed to implement a comprehensive CEM solution. The lowest layer of the framework describes data sources to feed CEM processes. The middle layer is the underlying technology system and processes to store and manipulate customer data in order to deliver CEM, and the top layer describes all the customer touchpoints. In a perfect CEM environment every single customer interaction and data point would be used to create offers to personalize the experience at every customer touchpoint.

Here is a more specific description of each layer in the CEM framework:

Data Sources: The CEM system must be able to draw information from all customer touchpoints, including the Web, call centers and PSS, loyalty data, airport systems such as DCS, and the emerging platform of social media and mobile.

Data Repository and Rules Engine – This is the heart of a CEM solution. Many of the airlines interviewed talked of a single data repository that is separate from the loyalty database that would aggregate, normalize and cleanse data from these multiple sources. Vendors such as Oracle are promoting a common data model partially based on their experience in the retail sector. To date, it is unclear whether the airline industry will agree on a single common data model.

The most important part of a CEM framework is the rules engine which will cover the "rules of engagement" for CEM. The airline department that controls these rules is a point of debate within the airlines. At this point in the evolution of CEM, marketing is often driving the initiative, and thus marketing offers and promotions are (many times) the focus. Some organizations recognize the need for customer service and operations to have a role in creating rules and have formed multi-departmental teams to provide this input. An important additional role of the rules engine should be channel management, controlling what messages are sent to which channels. The Business Rules Engine can also control many aspects of the shopping and booking process. The ability to deliver customized availability and pricing based on customer attributes drives CEM to various customer touchpoints.

Big Data analytics need to be deployed on top of the data and rules engine in order to uncover customer insight and translate that into actionable intelligence.

Customer Touchpoints - The self-service touchpoints are top priority for all airlines, but coordinating the right messages between the self-service platforms can be challenging. Mobile communication still lacks the elements described in Figure 5 that drive relevancy. For social media, the research uncovered that currently, a number of airlines are in a more reactive mode where dedicated airline staff are responding to the "noisiest" customer rather than the most strategic. Some airlines have started to train airport and inflight staff to refocus on customer needs, while the travel agency/TMC channel continues to be the major obstacle for a complete CEM solution.

Summary

A Single CEM Solution Will Likely Not Exist

No single vendor currently has a complete end-to-end CEM solution. Even for vendors such as Oracle or Teradata that control the underlying master customer data repository lack connections to operational systems and travel agency distribution to both collect and distribute CEM intelligence. These vendors will likely not be able to solve the challenges associated with implementing a solution that includes airport systems and travel agents. A complete CEM solution must be a collaborative effort across vendors.

CEM and the Gartner Technology Hype Cycle

Gartner, a leading technology research and advisory company, created the concept of the technology hype cycle, a graphic representation of the maturity and adoption of technologies and applications, and how they are potentially relevant to solving real business problems and exploiting new opportunities.   Figure 17 shows the Gartner Hype Cycle for emerging technology for 2012.
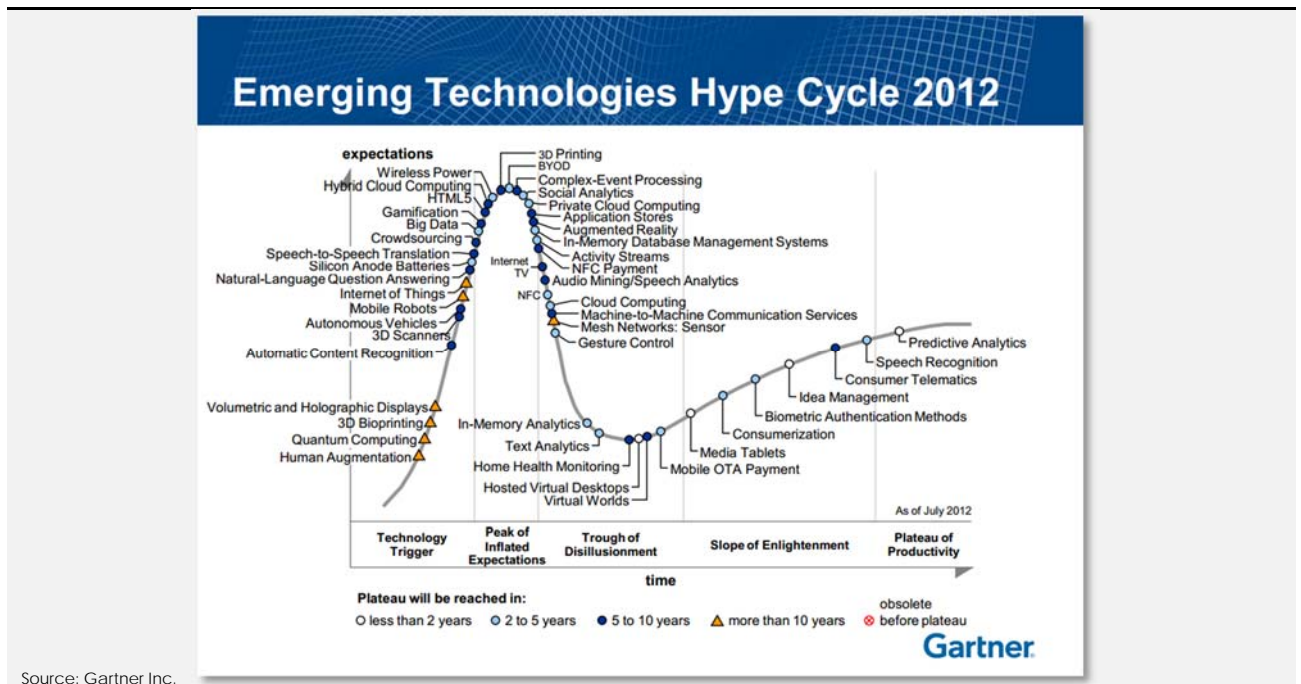
Source: Gartner Inc.

Figure 17: Gartner Hype Cycle for Emerging Technologies for 2012

In the case of airline CEM, TTCI research has shown that the concept of CEM is most likely past the "Trough of Disillusionment" and is starting to move on to the "Slope of Enlightenment". CEM will take 5 to 7 years to be fully implemented at a majority of airlines as a significant number of airlines interviewed for this project are at the defining or implementation stage of CEM.

The Gap between CEM Vision and Reality

TTCI research clearly uncovered a major gap between CEM vision and implementation reality. In some cases the vision omitted key areas such as airport or call center staff or the distribution channel, believing a pure self-service environment will be a near term reality. This includes:

- **Self-service** – The belief that we will be in a truly universally accepted self-service world in the near term is an unrealistic expectation therefore ignoring staff touchpoints represents a myopic view of CEM.
- **Employee CEM execution** – Part of the self-service focus is a frustration that employees will not be able to deliver on CEM. This can be overcome through training and enlisting their input on CEM interface design.
- **Focus on E-commerce** – The world is quickly shifting from PCs to mobile devices. Tablets and smartphones should be the driver of CEM. Unfortunately for most airlines, the e-commerce group often has mobile responsibility lacking the cross functional view of CEM needed for these emerging platforms with a focus on merchandising rather than CEM.
- **The Channel** – A comprehensive CEM solution must involve the channel. Unlike the majority of CEM technology competitors

Vision	vs.	Reality
Self-service is the primary focus for CEM.		Self-service is crucial, but 100% self-service for the masses is still years away. Airline staff also need a CEM solution.
Driving employee behavioral change is a hopeless cause.		Incorporating staff feedback for CEM solutions is essential. Gamification techniques and customizable skins can provide a CEM platform for the airline staff.
E-commerce drives CRM.		Mobile will usurp the web with greater focus on smartphones and tablets. E-commerce must match this trend.
Incorporating the Channel into a CEM effort is an impossible task.		With Airline IT and GDS working in concert, a more complete CEM can deliver a better passenger experience for all direct and indirect channels.

Figure 18: CEM Vision versus Reality

Methodology

Travel Tech Consulting Inc. (TTCI) conducted a comprehensive research study on the market opportunity for CEM. During 2013, TTCI conducted a total of 18 airline interviews with 12 different airlines from five different continents. This included large full service carrier, low cost and hybrid carriers.

In an effort to understand different perspectives on the subject of CEM, TTCI interviewed a cross section of managers within the targeted airlines. This included marketing, e-commerce, loyalty, operations and IT. In addition, TTCI conducted comprehensive interviews with major software providers in the Airline CEM space.